

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method comprising:

periodically transmitting a test signal over a channel ~~having~~ affected by interference from an interference signal associated with a transceiver, the test signal transmitted when the transceiver is not transmitting or receiving operational signals and the test signal sampled from [[an]] the interference signal;

directing the test signal through an adjustable time delay line to apply a time delay to place the test signal in an anti-phase with the interference signal; and

calibrating the time delay using the test signal, wherein calibrating the time delay includes adjusting the time delay line and providing substantially broadband cancellation of the interference signal.

2. (Original) The method of claim 1, wherein providing substantially broadband cancellation includes substantially matching an amplitude of the sampled signal with an amplitude of the interference signal.

3. (Original) The method of claim 1, wherein providing substantially broadband cancellation includes substantially matching an amplitude of the sampled signal with an amplitude of the interference signal to within about a 0.1 db accuracy.

4. (Original) The method of claim 1, wherein the method further includes providing about a 180° phase shift to the signal sampled from the interference signal.

5. (Original) The method of claim 4, wherein providing about a 180° phase shift to the signal sampled from the interference signal includes providing about a 90° phase shift upon sampling and providing about a 90° phase shift coupling the sampled signal to a signal path receiving the interference signal.

6. (Original) The method of claim 1, wherein the method further includes generating the interference signal as a signal from a transmitter through its associated antenna with the substantially broadband cancellation of the interference signal applied to the interference signal received by a second antenna associated with a receiver.

7. (Original) The method of claim 1, wherein the method further includes monitoring a signal strength received from a signal path receiving the sampled signal and the interference signal and adjusting the time delay to minimize the signal strength received from the signal path.

8. (Original) The method of claim 1, wherein providing substantially broadband cancellation includes providing substantially broadband cancellation to an interference signal, where the interference signal propagates from a transmitting antenna of a device to a receiving antenna of the device, the transmitting antenna using a first wireless protocol and the receiving antenna using a second wireless protocol.

9. (Currently Amended) A method comprising:

periodically transmitting and receiving a test signal over a channel affected by interference from an interference signal associated with a transceiver, the test signal transmitted when the transceiver is not transmitting or receiving operational signals;

transmitting a correction signal over ~~[[a]] the channel having interference associated with a transceiver,~~ the correction signal sampled from ~~[[an]] the~~ interference signal;

directing the correction signal to propagate from a first signal path through an adjustable time delay line to a second signal path to provide a time delay placing the correction signal in an anti-phase with the interference signal, the interference signal propagating over an interference path between the first signal path and the second signal path, the interference path separate from a primary path of the correction signal;

adjusting an amplitude of the correction signal; and

periodically resetting the time delay based on the received test signal and adjusting the amplitude of the correction signal to provide substantially broadband cancellation of the interference signal.

10. (Original) The method of claim 9, wherein the method further includes sampling the interference signal to generate the correction signal.

11. (Original) The method of claim 9, wherein periodically resetting the time delay and adjusting the amplitude occurs during a time interval in which no communication signals are being externally transmitted or received along the first signal path or the second signal path.

12. (Original) The method of claim 9, wherein the method further includes providing an initial time delay and an initial amplitude adjustment during a start-up process by a iterative process that includes:

- transmitting a test signal along the first signal path;
- receiving a response signal associated with the test signal from the second signal path, the response signal having a signal strength; and
- adjusting the time delay and adjusting the amplitude to minimize the signal strength.

13. (Currently Amended) An apparatus comprising:

- a first signal path including a transmitted signal from a transceiver;
- a second signal path including a received signal by [[a]] the transceiver, the transceiver configured to periodically transmit a test signal to propagate from the first signal path to the second signal path when the transceiver is not transmitting or receiving operational signals;
 - an adjustable delay line to provide a time delay to a correction signal propagating from the first signal path to the second signal path to place the correction signal in an anti-phase with an interference signal on an interference path from the first signal path to the second signal path, the correction signal sampled from the transmitted signal;
 - a controller to determine the time delay using the test signal; and
 - a variable attenuator coupled to the adjustable delay line to amplitude match the correction signal to the interference signal to provide substantial broadband cancellation of the interference signal.

14. (Original) The apparatus of claim 13, wherein the adjustable delay line includes one or more microelectromechanical switches.

15. (Original) The apparatus of claim 13, wherein the adjustable delay line includes a material whose permittivity can be changed to adjust the speed of propagation of the correction signal.

16. (Original) The apparatus of claim 15, wherein the material is barium strontium titanate.

17. (Original) The apparatus of claim 13, further including a first tap to couple the correction signal to a primary path from the first signal path to the adjustable delay.

18. (Original) The apparatus of claim 17, further including a second tap to couple the primary path to the second signal path.

19. (Previously Presented) The apparatus of claim 13, further including a phase corrector coupled to the adjustable delay line, the phase corrector to provide a small phase adjustment to the anti-phase generated by the adjustable delay line.

20. (Original) The apparatus of claim 19, further including a controller to manage the variable attenuator, the adjustable delay line, and the phase corrector.

21. (Original) The apparatus of claim 13, wherein the first signal path includes a transmitter and a first antenna, and the second signal path includes a receiver and a second antenna.

22. (Original) The apparatus of claim 21, wherein the first signal path further includes a transmission line coupled to the transmitter and a first cable having a fixed propagation delay coupled to the first antenna.

23. (Original) The apparatus of claim 21, wherein the transmitter is a first transceiver that uses a first wireless protocol and the receiver is a second transceiver that uses a second wireless protocol.

24. (Currently Amended) A system comprising:

- a processor;

- a memory coupled to the processor;

- a transceiver having a first signal path and a second signal path, the first signal path on which signals responsive to the processor are transmitted and the second signal path on which signals to provide a communication to the processor are received, the transceiver configured to periodically transmit a test signal to propagate from the first signal path to the second signal path when the transceiver is not transmitting or receiving operational signals;

- a first antenna coupled to the first signal path to transmit the signals from the first signal path;

- an adjustable delay line to provide a time delay to a correction signal propagating from the first signal path to the second signal path, the adjustable delay line to place the correction signal in an anti-phase with an interference signal, the interference signal on an interference path between the first signal path and the second signal path, the interference path separate from a primary path of the correction signal;

- a variable attenuator coupled to the adjustable delay line to amplitude match the correction signal to the interference signal to provide substantial broadband cancellation of the interference signal; and

- a controller coupled to the transceiver and configured to determine the time delay using the test signal and regulate[[s]] control signals provided to transceiver, the control signals allows for setting time delay, amplitude attenuation and phase correction.

25. (Original) The system of claim 24, wherein the first signal path includes a transmitter to transmit a first signal using a first protocol and the second path includes a receiver and a second antenna to receive a second signal using a second protocol.

26. (Previously Presented) The system of claim 24, wherein the controller is configured to manage the variable attenuator and the adjustable delay line.

27. (Original) The system of claim 24, further including a first tap to couple the correction signal to a primary path from the first signal path to the adjustable delay, and a second tap to couple the primary path to the second signal path, wherein the first tap and the second tap each provide about a 90° phase shift to the correction signal.

28. (Original) The system of claim 24, wherein the system further includes a data transmitting module coupled to the first signal path collocated with a data receiving module coupled to the second signal path.

29. (Currently Amended) The system of claim 24, wherein the system [[is]] includes a computer.

30. (Currently Amended) The system of claim 24, wherein the system [[is]] includes a laptop computer.